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EXAMINER

TORRENTE, RICHARD T

ART UNIT

PAPER NUMBER

2621

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                   |  |
|------------------------------|--------------------------------------|-----------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/501,001 | <b>Applicant(s)</b><br>ABE ET AL. |  |
|                              | <b>Examiner</b><br>RICHARD TORRENTE  | <b>Art Unit</b><br>2621           |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 44-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 44-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 51 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Wang et al. (NPL Adaptive Frame/Field Coding for JVT).

Regarding claim 51, AAPA discloses a coding method for coding blocks of picture data (see fig. 37), said coding method comprising: generating, by a command generation unit, a sequence of commands (see "command" in fig. 38) for respectively assigning frame-indices (see "reference index" in fig. 38), used for frame coding, to reference frames of the blocks of picture data (see "picture number" in fig. 38); adaptively switching (see P [0012]), by a processor and on a block-by-block basis of the blocks of picture data, between frame coding and field coding; specifying, by a reference frame specification unit (see P and B in fig. 38) and in a case where frame coding is performed on a block of picture data of the blocks of picture data (see fig. 39), a reference frame, which is referred to when coding the block of picture data (see "reference index" in fig. 38), according to a frame-index included in the assigned frame-

indices assigned by the sequence of commands (see "reference index" in fig. 38); specifying, by a reference field specification unit (see fig. 41B) and in a case where field coding is performed on the block of picture data, a reference field, which is referred to when coding the block of picture data, according to a field-index, which is for field coding the block of picture data (see "index" in fig. 38, where P [0004]-[0005] indicates the similar index is applicable as shown in fig. 41B); coding, by a reference index coding unit and as a reference index (see "index" in fig. 38), the frame-index, which is used for specifying the reference frame, in the case where frame coding is performed on the block of picture data (see P1-P3 in fig. 41A); and coding, by the reference index coding unit and as a reference index (e.g. see "index" in fig. 38), the field-index (see P1T-P3B in fig. 41B), which is used for specifying the reference field, in the case where field coding is performed on the block of picture data.

Although AAPA discloses generating the frame and field index (see fig. 38, 41A and 41B), it is noted that AAPA does not disclose wherein the field index is generated using the frame-index included in the assigned frame-indices.

However, Wang, in the same field on endeavor, discloses an adaptive frame/field coding wherein the field index is generated using the frame-index included in the assigned frame-indices (see number 4, section 3.2, page 2).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Wang teachings of adaptive coding into AAPA adaptive coding for the benefit of improving coding performance and processing.

Regarding claim 56, the claim(s) recite analogous limitations to claim 51, and is/are therefore rejected on the same premise.

3. Claims 44, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Wang et al. (NPL Adaptive Frame/Field Coding for JVT).

Regarding claims 44, 49 and 50, although AAPA and Wang discloses analogous limitations to claim 51, it is noted that AAPA and Wang differs from the present invention in that it fails to particularly disclose a decoder to generate the analogous limitations. However, one of ordinary skill in the art would have had no difficulty in recognizing that the entire process of decompressing and decoding any compressed and coded signal is merely the reverse procedure of the encoding process, as clearly disclosed in AAPA (see P [0007]). Furthermore, it should be self evident to one skilled in the art from the teaching of AAPA and Wang that the adaptive predictive encoder is an art-recognized equivalent structure to an adaptive predictive decoder and is designed to be used along with a similar but in reverse sequence predictive decoder.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the reference of AAPA and Wang before him/her, to flexibly apply the reverse processing steps of the encoder of AAPA and Wang in a

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similarly designed decoder in order to be able to accurately decode any video signal that was compression encoded using the same predictive coding technique.

4. Claims 45-48, 52-55 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Wang et al. (NPL Adaptive Frame/Field Coding for JVT), and further in view of NPL Draft ITU-T Rec. H.264 (IDS).

Regarding claim 52, AAPA further discloses wherein said specifying of the reference field includes: specifying, as the field-index, a doubled value of a value of the frame-index (see frame indices fig. 41B doubles fig. 41A), which is used for specifying a reference frame including the reference field, in a case where the reference field has a same parity as a parity of a field including the block of picture data (see fig. 41B);

AAPA and Wang do not disclose specifying a value obtained by adding one to the doubled value of the value of the frame-index in the case where the reference field has a different parity from the parity of the field including the block to be coded.

However, NPL discloses specifying a value obtained by adding one to the doubled value of the value of the frame-index in the case where the reference field has a different parity (see page 54, section 8.3.6.2).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate NPL teachings of

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reference picture numbering into AAPA and Wang reference picture numbering for the benefit of managing reference picture buffer for processing.

Regarding claim 53, AAPA further discloses comprising: coding information indicating a maximum number of frame-indices (see "Max\_idx" in fig. 39); and determining a maximum number of field-indices (see "Max\_idx" in fig. 39 and see P [0004]-[0005]) to be double a value (see frame indices fig. 41B doubles fig. 41A) of the maximum number of frame-indices, wherein said specifying of the reference field includes determining the field-index so that a number of specified reference fields is not greater than the determined maximum number of field-indices (see even count index and reference in fig. 41B).

Regarding claim 54, the claim(s) recite analogous limitations to claim 53, and is/are therefore rejected on the same premise.

Regarding claim 55, the claim(s) recite analogous limitations to claim 52, and is/are therefore rejected on the same premise.

Regarding claim 57, the claim(s) recite analogous limitations to claims 51 and 52, and is/are therefore rejected on the same premise.

Regarding claims 45-48, AAPA, now incorporating the method of NPL, recite analogous limitations to claims 52-55, and is/are therefore rejected on the same premise.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 44-57 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of



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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571) 270-3702. The examiner can normally be reached on M-F: 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard Torrente/  
Examiner, Art Unit 2621

/Young Lee/  
Primary Examiner, Art Unit 2621

RT